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JUN - 3 1992

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, D. C. 20554

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

In the Matter of:	)	
	)	
Amendment of the Table of Frequency	)	RM-7977
Allocations & Part 22 of the Rules	)	ET Docket No. 92-100
Relative to the Allocation of Reserve	)	
Spectrum for a Common Carrier	)	
Acknowledgement Paging Service	)	
	)	
Petition for Rulemaking to Allocate	)	RM-7978
150 kHz in the 930-931 MHz Band	)	ET Docket No. 92-100
and to Establish Rules and Policies for	)	
a New Nationwide Wireless Network	)	
(NWN) Service	)	
	)	
Amendment of the Table of Frequency	)	RM-7979
Allocations and Part 22 of the Rules	)	ET Docket No. 92-100
Relative to the Allocation of Reserve	)	
Spectrum for a Common Carrier Advanced	)	
Architecture Paging Service	)	
	)	
Amendment of Parts 2 and 22 of the	)	RM-7860
Commission's Rules to Provide for a Land	)	ET Docket No. 92-100
Based Common Carrier Ground-to-Air	)	
Paging Service in the 930 to 931 MHz band	)	
	)	
Petition for Rulemaking to Allocate 800 kHz)	)	RM-7980
in the 930-931 MHz Band & to Establish	)	ET Docket No. 92-100
Rules & Policies for a New Nationwide& Local)	)	
Personal Information Messaging Service	)	

**PETITION TO ACCEPT LATE FILED COMMENTS**

Motorola Inc. requests the Commission to permit a minimal extension and accept the attached comments. Although extensive preparation for this filing took place prior to the due date, last minute travel changes by key officials delayed final coordination. We believe that the attached comments will contribute significantly to the issues raised in this proceeding. Additionally, the Commission's conducting of the proceeding would not appear to be delayed or otherwise impaired. Nor do the interests of other parties appear to be negatively impacted. Accordingly, we respectfully request permission to file the attached Comments.

*Michael A. Menius*

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Rules and Policies for a New Nationwide and	)	
Local Personal Information Messaging	)	
Service (PIMS)	)	

Motorola Inc. is pleased to submit the attached comments to the above captioned petitions, which address various aspects of Advanced Messaging Services in the 930-931 MHz Paging reserve band.



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date: June 3, 1992

## **COMMENTS**

**SUMMARY:** The 930-931 MHz reserve should be licensed now for the introduction of Advanced Messaging Services, under a regulatory structure which encourages spectrum efficiency and technological innovation. Spectrum should be made available to licensees in initial segments, with the remainder to be made available only to those entities which in fact develop and fill spectrum with A. M. S. technology. The Commission should prevent spectrum warehousing or speculation by requiring construction and some minimal level of spectrum use before additional frequencies can be obtained.

### **DISCUSSION**

#### **I. “A. M. S.” IS THE APPROPRIATE USAGE FOR THE 930-931 MHZ RESERVE BAND.**

Paging service is evolving to advanced messaging services: higher speed data and voice applications which go beyond current one-way, lower bit rate service features. Although many new service options and forms of information will evolve, one-way transmission will still be the lowest cost option among the wireless mobile communications services. Advanced Messaging Services will combine enhanced message capability with the fundamental attractiveness of low cost service. The 930-931 MHz reserve band is the optimal spectrum for introduction and development of A. M. S., as discussed below.

**II. A SIGNIFICANT PUBLIC NEED WILL BE MET BY LICENSING  
930-931 MHZ FOR ADVANCED MESSAGING SERVICES.**

Paging services have consistently provided unique advantages, which have enhanced the productivity of, and provided convenience to users whose needs could not be appropriately satisfied by the higher cost structure of the features offered by cellular, trunked radio and other wireless communications services. For these reasons, paging has gained widespread user acceptance and has experienced an unparalleled growth with more than 13 million users in the United States and a 20% annual growth rate (this trend continued even under the recessionary environment of 1991). Regarding the utility of traditional paging, the marketplace has spoken clearly. A.M.S. will deliver significantly more message capability to each individual user. Annual growth rates could approach 50% per year.

Other large corporations have also made it clear that A. M. S. is a significant development which needs to be addressed with this spectrum allocation. A number of Fortune 500 companies have pegged these services as emerging new opportunities for value-added services at low cost. Examples are Hewlett Packard's HP95LX and R.F. data modem, AT&T's Safari Laptop one-way R.F. data service, and Apple's recently announced "Newton" personal information manager. In short, all these companies have publicly announced their respective intentions to develop low cost electronic messaging capabilities.

The above illustrations are hardware examples. The same developments will also spawn an entire new generation of services and corresponding software products. Examples would be the wireless delivery of EMAIL, spreadsheet

information, personal productivity tools such as wireless calendar updates, catalogues, address and phone books, etc. Another class of value-added services will be the wireless delivery of information services. On the personal side, we can anticipate such things as weather, traffic, or world news. On the business side, stock quotes, business news, and the like will proliferate. Finally, the advent of compressed voice services as well as the wireless delivery of graphics will bring exciting services from the wired world to the arena of mobile communications. The extensive menu of services and the new, related industry of application specific software, will increase the efficiency of tomorrow's users.

A. M. S. is a natural extension of paging which has traditionally addressed individual subscribers. The advent of A. M. S. will allow simultaneous transmission to individuals, groups, or even entire communities. These services will be unique in that they can communicate efficiently and inexpensively in the "one - to - N persons" environment. An example is a message to a sales force of 200 personnel. The message is sent once; it is simultaneously received by all 200 sales representatives. Advanced Messaging will be the lowest cost method to communicate with individuals or groups. Illustrations would include medical updates to hospital personnel, safety notices, health bulletins for medical situations, hazardous materials notices, and safety evacuation alerts. The requested allocation will provide spectrum where it will optimally develop the next generation of paging, A. M. S.

**III. THE A. M. S. ALLOCATION SHOULD ENCOURAGE  
ENTREPRENEURS TO INNOVATE, SHOULD EXPEDITE SERVICE  
TO END USERS, AND SHOULD DISCOURAGE SPECULATION  
IN THE SPECTRUM LICENSING PROCESS.**

The Commission's Pioneer's Preference mechanism is one attempt to encourage innovation broadly. These regulatory efforts must be combined with the overall concern that applicants/licensees not utilize spectrum merely for speculation strategies. There may be a basic tension between these two considerations. As a practical matter, it may be difficult for the Commission to block raw speculators without also eliminating at least some investors/entrepreneurs who bring real value to the innovation process. The A. M. S. allocation should include safeguards to require that, for spectrum actually licensed, systems must be constructed and some requisite channel loading must be achieved before succeeding frequencies are licensed. This level of loading may be more relevantly defined in terms of revenue-generating-bits transmitted per work day. This is a complex subject which needs to be explored fully and incorporated into the A. M. S. allocation policy.

Additionally, as an initial safeguard, the Commission should restrict the amount of spectrum issued to licensees at the first stage, keeping the remainder of A. M. S. spectrum available to be licensed for needed expansion by A. M. S. providers which actually implement service under their initial authorizations.

#### **IV. TECHNOLOGICAL CONSIDERATIONS REQUIRE LICENSING** **930-931 MHZ FOR ADVANCED MESSAGING SERVICES.**

The 930-931 MHz band is uniquely suited for the development of A. M. S. It is located between two bands of previously allocated paging spectrum, which enjoy widespread use by the public. The adjacency of this spectrum to existing paging bands will facilitate the future re-mining of A. M. S. technologies into current paging spectrum. The 930-931 Mhz band was previously designated by the Commission as a paging reserve. In response to these regulatory actions, extensive development resources have already been devoted to A. M. S. implementation in this band. The technological leadership thus attained could be jeopardized by re-directing development activity at this time. Substantial benefits to the public can be anticipated and should be expeditiously achieved by licensing this spectrum to services that are the next natural extension of paging.

The A. M. S allocation in the 930-931 MHz band will minimize R. & D. costs for bringing current paging technology into the next generation of advanced messaging. This process of innovation will happen more rapidly, and at lower cost, at 930-931 MHz, than it will elsewhere in the spectrum, because it will be possible to utilize existing R.F. electronics at 900 MHz, thereby readily introducing new features for A. M. S. without re-inventing the "R.F. wheel" in higher bands.

It is recognized that it will be necessary to expand A. M. S. in the future into higher bands and that additional spectrum will be required for this purpose. The requested licensing at 930-931 MHz is needed because of immediate market demand and initial cost saving considerations, not because it constitutes a total response to the overall spectrum demand projections for A. M. S.

**V. GLOBAL COMPETITIVENESS CONSIDERATIONS REQUIRE THE  
LICENSING OF THE 930-931 MHZ TO A. M. S.**

A.M.S. provides a unique opportunity for American companies to lead the world. From the above discussion, it can be seen that the most rapid scenario for technology development of A. M. S. in this country is for the Commission to move forward now to begin licensing the 930-931 MHz band for A. M. S. Unfortunately, there will be a longer, slower timetable if A. M. S. is required to unfold initially in this country at higher bands and within the general framework of broad PCS development. In terms of exporting the technology leadership in A. M. S. to other nations which are also involved in development of related technologies, the United States will gain a significant advantage by the requested allocation now.

**VI. THE MARKETPLACE HAS LARGELY REJECTED THE 930-931 MHZ  
BAND FOR "PCS." IN FAVOR OF OTHER SPECTRUM.**

The Commission should reject the regulatory approach of holding up an A. M. S. allocation of this band in favor of including it in a broader PCS allocation plan, because the marketplace has already made it clear there is little support for, or need for, such an approach. CT-2 proponents, for example, have indicated that more than 1 MHz will be required and have opted to support allocations in higher bands. Advocates of PCS network infrastructures have requested even larger segments of spectrum and have stated that the 930-931 MHz band does not fit in with their spectrum strategies. Satellite PCS advocates (LEOs, for example) have directed their attention to other spectrum bands more appropriate to satellite technologies.

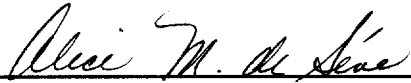


## **CONCLUSION:**

The licensing of the 930-931 MHz band for Advanced Messaging Services will enable the marketplace to launch the next generation of services beyond paging which are uniquely related to the low cost paging services that have gained such wide public acceptance and have experienced such growth in demand. This spectrum is uniquely situated so as to provide the necessary launching vehicle for A. M. S. and to enable this country to benefit from the productivity improvements these services represent as well as to export its technological leadership in this exciting new growth area around the world. The licensing policies for A. M. S. in this band need to be carefully crafted so as to stimulate and encourage the necessary entrepreneurial and innovative environment, while preventing speculation. The Commission should reject the approach of examining these issues within the broader context of the PCS allocation. Those issues are not directly related to this band, as has been previously communicated by those entities seeking licenses for PCS. This frequency band was previously allocated as a reserve for paging technology in the early '80's. The technologies of A. M. S. represent the next natural extension of paging. The Commission should move expeditiously to begin licensing these important new technological innovations.

## **CERTIFICATE OF SERVICE**

I, Alice M. de Séve, of Motorola Inc., do hereby certify that on this 3rd day of June, 1992 a copy of the foregoing "Comments" was sent to each of the following by first-class mail, postage-prepaid except where service by hand is indicated(\*):

  
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